CORRES. CONTROL
OUTGOING LTR NO.

DOE ORDER # 33 RF 10904

DIST.	LTR	ENC
AMARAL, M.E.		
BENEDETTI, R.L.	X	X
BENJAMIN, A.		
BERMAN, H.S.		
BRANCH, D.B.		
CARNIVAL, G.J.		
COPP, R.D.		
DAVIS, J.G.		
FERRERA, D.W.		
HANNI, B.J.		
HARMAN, L.K.		
HEALY, T.J.		
HEDAHL, T.		
HILBIG, J.G.		
KIRBY, W.A.		
KUESTER, A.W.		
MANN, H.P.		
MARX, G.E.		
McDONALD, M.M.		
McKENNA, F.G.		
MONTROSE, J.K.		
MORGAN, R.V.		
POTTER, G.L.		
PIZZUTO, V.M.		
RILEY, J.H.		
RISING, T.L.		
SANDLIN, N.B.		
SETLOCK, G.H.		
STEWART, D.L.		
SULLIVAN, M.T.		
SWANSON, E.R.		
WILKINSON, R.B.		
WILLIAMS, S. (CRC)		
WILSON, J.M.		
WYANT, R.B.		
Greengard, TC	X	X
Hutchins, WM	X	X
Madel, RE	X	X
CORRES CONTROL	X	X
ADMIN RECORD		
PATS/T130G		
TRAFFIC		

CLASSIFICATION:

UCNI		
UNCLASSIFIED		
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER SIGNATURE
Not req'd per class. office
DATE exemption

IN REPLY TO RFP CC NO:
N/A

ACTION ITEM STATUS
☐ PARTIAL/OPEN
☐ CLOSED

LTR APPROVALS:

ORIG & TYPIST INITIALS
[illegible]

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

September 3, 1993

93-RF-10904

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Richard J. Schassburger
Acting Director
Environmental Restoration Division
DOE, RFO

Attn: S. R. Grace

OPERABLE UNIT NO. 2 SURFACE WATER TREATABILITY STUDY REPORT MEETING AUGUST 20, 1993 - TCG-170-93

On August 20, 1993, the Department of Energy/Rocky Flats Office and EG&G Rocky Flats, Inc. held a meeting with the Environmental Protection Agency, Environmental Protection Agency, Colorado Department of Health and PRC Environmental, Inc. to discuss the Operable Unit No. 2 Interim Measure/ Interim Remedial Action Draft Treatability Study Report (TSR). Meeting minutes are attached.

The meeting focused on the discontinuation of collection and treatment of SW-61 and SW-132. The representatives from the agencies agreed that the surface water characterization results presented in the TSR indicated analyte concentrations were generally below ARARs for surface water sources SW-61 and SW-132. Baed on the results, the Final TSR will recommend the discontinuation of collection and treatment of SW-61 and SW-132. Modification to the current collection and treatment plan will not begin until written approval from the agencies is received.

Surface water source SW-59 exhibited concentrations above ARARs, especially with respect to Volatile Organic Compounds (VOCs). The current treatment for SW-59 requires re-evaluation. Treatment evaluationoptions include: utilize existing plantsite treatment facilities; evaluate other methods of treatment; evaluate design modifications to the existing treatment system; and determine the source of the SW-59 seep in an effort to end the flow of contaminated water. This evaluation is considered to be out of scope for the TSR and will require additional time and cost to complete as part of the Final TSR. DOE has indicated that no further extensions will be granted on the Final TSR due date; therefore, the evaluation of treatment options for SW-59 will be issued as a separate document.

The delivery date for the Final TSR is based upon receipt of comments from the agencies. Comments were expected by August 30, 1993 but none have been received to date. If you have any questions, please contact R. E. Madel of Environmental Engineering & Technology at extension 6972.

T C Greengard (cet)

T. C. Greengard
Manager
Environmental Engineering & Technology

REM:cet

Orig. and 1 cc - R. J. Schassburger

Attachment:
As Stated

MEETING MINUTES FOR OU 2
SURFACE WATER IM/IRA (WALNUT CREEK)
WITH DOE, EPA AND CDH
AUGUST 20, 1993

PARTICIPANTS

Scott Grace - DOE/RFO
Joe Schieffelin - CDH
Gary Kleeman - EPA
Ted Ball - PRC
Mike Anderson - Weston
Tom Greengard - EG&G
Annette Primrose - EG&G
Robin Madel - EG&G
Rick Roberts - EG&G

PRESENTATION

The following information and slides were presented at this meeting. Please refer to the attached slides for more information.

Treatment System Description

Surface water stations SW-59 - Seep, SW-61 - South Walnut Creek, and SW-132 - a culvert, are piped together into the Walnut Creek Surface Water IM/IRA treatment system. The primary contaminants are as follows:

SW-59	SW-61	SW-132
Carbon Tetrachloride Chloroform Tetrachloroethene Trichlorethene Vinyl chloride ARAR is below detection limit	Detections are below ARARs or ARARs are below detection limits	All means of volatiles are below ARARs Metals mean concentrations are below ARARs.

A summary of all three surface water stations where ARAR exceedence frequency >10% follows:

SW-59	14 analytes
SW-61	7 analytes
SW-132	8 analytes.

The quality of the surface water treated has improved over time. Some of the possible explanations were discussed. Regardless of the reason, water quality has improved and the potential for eliminating the treatment system may exist.

Treatment System Discontinuation

The OSWER directive states that it is not necessary to remediate if the risk is not above 10^{-4}. Several different assessments of risk for the treatability study were run for the surface water stations currently treated under the SW IM/IRA. This was not a complete risk assessment such as will be done for the Phase II RFI/RI Report. All assessments assumed a resident drinking 2 liters of water per day for 30 years and are very conservative.

Direct consumption of untreated water from Pond B-5 which has received all flow from the three surface water stations, has an associated risk of 10^{-6}, or less. If SW-59 is not treated, risk is above 10^{-4}. If none of the stations are treated, risk is below 10^{-4} due to the dilution of SW-59 contamination by the greater amount of water in SW-61. The rest of the scenarios considered yielded risks below 10^{-4}. While this assessment of risk may be used to determine whether water should continue to be treated by the SW IM/IRA treatment system, it will not be used to determine the final need for remediation of these sites. This final determination will be conducted as per the IAG.

Treatment System Operation Summary

The following samples were collected and analyzed to determine the effectiveness of the treatment system:

RS-1 influent to system
RS-5 influent to Granulated Activated Carbon (GAC) unit
RS-7 effluent from system.

The worst contamination seen at RS-1 are volatile organics; specifically chloroform, carbon tetrachloride, vinyl chloride, Tetrachloroethene and trichloroethene. However, most volatiles do not make it to the sampling point prior to the GAC unit. Almost all volatiles, metals and radionuclides are gone at the effluent point. The treatment and residual costs are presented on an attached slide.

Conclusions

Water from SW-61 and SW-132 has minimal contaminant concentrations and has low risk. Treatment of this water is relatively high cost. Water from SW-59 has minimal risk, the volatile organics are lost before the GAC unit, and waste generation and chemical usage is greater than the amount of contamination removed. While Rocky Flats will prefer dropping treatment of all three surface water stations, this should be a phased approach. Perhaps treatment of SW-61 and SW-132 could be discontinued now, with discontinuation of treatment of SW-59 considered later.

DISCUSSION

The following comments, ideas and questions were presented after the presentation concluded.

PRC suggested that a different method for treating water from SW-59 could be considered in the future.

DOE affirmed that the SW IM/IRA treatment system would be used for other projects in the future.

CDH questioned whether SW-59 water could be successfully treated by the 881 treatment facility. The answer was not known at this time but there were doubts about whether the ion exchange process could handle the water.

DOE suggested collecting water from SW-59 24 hours a day, but only treating batches of the water every 2 to 3 days.

PRC wondered if improved filters prior to the facility could result in the elimination of the GAC unit.

EPA stated that exceedence of the ARARs is more important that a risk based evaluation.

PRC/EG&G stated that since the untreated water would be collected in the Ponds and treated before offsite release, that this would not be a raw discharge.

DOE/EG&G stated that water from SW-59 was previously allowed to mingle with water in SW-61. Therefore, older SW-61 samples contained the more contaminated SW-59 component and had higher concentrations of contaminants.

Weston suggested that the historical data should be analyzed carefully.

CDH wondered whether the water quality would continue to improve with time.

EG&G exhibited a graph of carbon tetrachloride concentrations over time. The graphed data was erratic and could be temperature related.

CDH stated that the treatability study was the goal of this project. Perhaps the low levels of contamination present prevented optimizing the system.

EG&G again affirmed that the SW IM/IRA treatment system would be used for other projects in the future.

DOE stated that disposing of the higher volatile content water from the OU 2 subsurface IM/IRA would be a better use of this system.

CDH agreed that the treatment system was analyzed using very low concentrations and might not have been a good test. However, this should be used for more projects.

PRC agreed that perhaps this experiment could be considered over. SW-59 should continue to be treated, however, maybe using a cheaper alternative.

EPA stated that the final report should contain a recommendation for future treatment of SW-59.

EG&G/DOE suggested that if it could quickly be determined how to deal with SW-59, that it should be in this report. If not, perhaps SW-59 treatment should be a separate document.

EPA/CDH agreed that they were heading towards a determination of no treatment for SW-61 and SW-132 even though ARARs are exceeded. Especially in light of the volume of waste generated.

PRC suggested checking the uranium isotope ratios to see if the uranium collected is natural or related to plant activities.

DOE acknowledged that SW-103 was originally included in the SW IM/IRA, but was dropped after reaching agreement with EPA and CDH that this would be a difficult site to collect and treat due to the distance from the other surface water stations.

EPA tentatively promised comments by the end of the month. CDH will perhaps be providing comments at the same time. Both will respond to the request for discontinuing treatment of SW-61 and SW-132 at this time.

DISCUSSION OF RS-1

There has been a change in the procedure for collection at RS-1. There will be an evaluation of the impact of this change on the data previously gathered. Samples taken at RS-5 and RS-7 are not impacted by this change and have been collected properly. The samples collected at the surface water stations SW-59, SW-61 and SW-132 were also not impacted. The conclusions and risk assessment in the report were based on the surface water stations, and were not based on RS-1 data. Therefore, there is little impact on the report.

CDH asked if this changed impacted table 4-11 in the report. EG&G affirmed that this may affect the RS-1 values only.

COMMENTS FROM OUTSIDE GROUPS

A question about sample QA/QC data was raised by Todd Margules (of the Technological Review Group and Rocky Flats Monitoring Council) to CDH.

EG&G responded that Field QA/QC data is missing for the samples taken for RS-1 through RS-7.

However, full field QA/QC samples were taken for the surface water stations SW-59, SW-61 and SW-132. In addition, conclusion were based on the surface water stations.

While DOE and EG&G did receive comments from the TRG, CDH and EPA did not. These will be faxed to EPA and CDH.

SUBSURFACE IM/IRA "NAPL" POCKET

The following brief discussion was held at the conclusion of this meeting.

The DOE stated that free product (NAPLS) was present at the subsurface IM/IRA site and these results had been faxed to the Agencies. If the test was carried out as designed, there was the possibility of a thermal reaction. A request was made for 5 weeks additional time to lay out options and discuss these with the Agencies.

CDH questioned whether the test could be completed a lower depth to avoid the NAPLS.

EG&G/DOE stated that this may draw the NAPLS downward and that the extent downward of the NAPLS was unknown.

DOE stated that the system needed to be modified but that some portion of the test could proceed.

EPA/PRC suggested that the material had been in-place so long that it was doubtful that it could be moved. Therefore, it might not be a problem.

CDH said that the test as planned could still be the best removal method since the material has not moved in a long time. However, need to balance GAC generation against simple sludge removal.

DOE allowed that this would not be known until the test was run. However, RFP would like the time to discuss alternatives. Would like to run the first test as soon as possible. A second test might involve removing the sludge.

DOE requested 5 weeks to assess the alternatives and an additional extension request might be submitted after the evaluation was completed.

CDH stated that for once, there was a situation involving real contamination. It should be dealt with correctly now. Not concerned about timely notification of the need for a schedule delay.

EPA asked if the sludge was clearly located away from the trench and was assured that it was.

DOE will provide a letter requesting a schedule extension by the middle of next week.